Remarks

The application was reviewed in light of the official action dated July 27, 2005. Claim 1 has been amended. Claims 1-11 stand pending in this application. In light of the amendments and the following remarks, Applicants respectfully request that the present application be allowed.

Applicant is pleased that the Examiner considers claims 4, 6 and 7 to contain allowable subject matter.

The Examiner rejected claims 1-3, 5 and 8-11 under 35 U.S.C. 102(a), (b) & (e) as being anticipated by Crider et al. (US 6,263,284) and Bevc et al. (US 6,625,543). In light of the amended claims and these remarks, these rejections are respectfully traversed.

The claims as presently amended are not anticipated by Crider et al. because Crider is not a method to generate output seismic trace data utilizing interpolation. Crider et al. teaches a polynomial method that utilizes measured seismic data to construct predicted seismic traces. (claim 1). This result is achieved by filtering out anomalous readings. (col. 4 l. 30-44). Crider is effectively weighing measured traces to generate an overall predicted trace. The claimed invention in this application uses polynomial equations to interpolate seismic trace data over an omitted section. Since Crider does not disclose a method for interpolating data over a section of omitted data, Crider fails to anticipate the claimed invention.

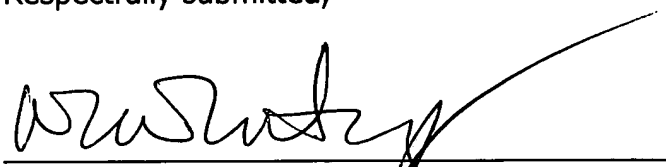
The present invention is also not anticipated by Bevc et al because it does not disclose a method that utilizes polynomial or least square fitting techniques but an azimuth moveout method. (col. 3 l. 1-17) An azimuth moveout method is computationally different from the polynomial fit method. An azimuth moveout requires that input data

in the same azimuth be analyzed as a whole and forces the moveout information to a group of re-gridded output. This "block-in" and "block-out" approach compromises the optimal values of each interpolated trace. In other words, the Bevc et al. input is a grid of seismic data, and the output is a different grid of seismic data. Unlike the claimed invention, Bevc does not teach a method that is able to interpolate data at a single arbitrary location. Furthermore, azimuth moveout is time-sample dependent, whereas the subject polynomial methodology utilizes time-sample independent weights. For the above stated reasons, Bevc et al. does not anticipate the claimed invention.

Finally, Applicant would like to note that neither reference alone or in view of each other renders the present invention obvious. There is no suggestion or motivation to modify or combine either of these references because the objectives of each method are distinct. Crider et al. goes to a method that generates an overall predicted trace by weighing different seismic traces. (Crider et al. claim 1). Bevc et al. discloses a method that re-grids seismic data utilizing an azimuth moveout method. (Bevc et al. claim 1). Neither reference indicates that a method for predicting traces can be utilized to re-grid seismic data. Further, neither reference indicates that the polynomial method of Crider can be utilized as a substitute for the azimuth moveout method of Bevc. There is no indication that Crider is capable of producing a result other than generating predicted seismic traces. Based on the foregoing arguments, the claims as amended are not rendered obvious by Bevc et al. or Crider et al.

Accordingly, in view of the claims as presently amended and the foregoing remarks, it is respectfully submitted that all of the claims are now in condition for allowance. Reconsideration and notice to that effect is earnestly requested.

Respectfully submitted,



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